View metadata, citation and similar papers at core.ac.uk

brought to you by CORE

provided by Elsevier - Publisher Connector

SMALL AORTIC VALVE PROSTHESES; INFERIOR CLINICAL AND ECHOCARDIOGRAPHIC RESULTS

Frederick A. Dressler, Ramon Castello, Jeanette A. St. Vrain, Karen C. Kelley, Hendrick B. Barner, ArthurJ. Labovitz, St. Louis University, St. Louis, Missouri

To assess the effect of prosthetic size in aortic valve replacement (AVR) we studied the clinical and echocardiographic characteristics of 97 pts undergoing AVR with a mechanical valve. Fourteen received a small (19 or 21 mm) (Group I) and 83 a large (≥ 23 mm) valve (Group II). Patients were studied before and 6 months after AVR. Before AVR there were no differences in age, CHF class, ejection fraction, or cardiac output (CO). Although early and 6 month mortality were similar, several differences appeared at 6 months. The CO, % reduction in LV mass index (LVMI), and exercise duration (Ex Dur) were less in Group I, and CHF class was greater (Table).

	CO	Δ LV MI	Ex Dur	CHF Class
Group I	4.7 l/min	-8%	370 sec	1.9
Group II	6.4 l/min	-21%	555 sec	1.1
p <	0.03	0.10	0.02	0.0001

Change in LVMI (p=0.01, R=0.40) and valve size (p=0.02, R=0.26) were the only independent determinants of CHF class. Thus, small aortic prostheses were associated with inferior clinical and echocardiographic results suggesting that improved symptoms following AVR may be, in part, due to regression of LV hypertrophy.

LONG-TERM RESULTS OF MITRAL COMMISSUROTOMY

Dieter Horstkotte, Reinhard Niehues, Hagen D. Schulte, Wolfgang Bircks, Heinrich-Heine-Universität, Düsseldorf, F.R.Germany

From 1961-1962, 410 consecutive patients (p) (254 females, 156 males) underwent closed mitral commissurotomy. The age ranged 18 to 59 (mean 37.9 + 8.1) years; the mean NYHA Functional Class was 3.1. Prospective follow-up was complete and ranged 26.5 - 29.2 (mean 27.8 + 1.1) years.
There were 19 operative deaths (4.6%). Cumulative survival was 0.76 + 0.02 at 10 years, 0.61 + 0.07 (20 years) and 0.55 + 0.08 (28 years), respectively. Twohundred-and-nine p required one, 21 p more than one reoperation. With the first reoperation the valve was replaced in 192 p while 17 p had a second valve reconstruction. Cumulative freedom from reoperation was 0.90 + 0.02 at 10 years of follow-up, 0.62 + 0.05 (20 years) and 0.45 + 0.07 (28 years). The median interval between primary and secondary intervention was 16.8 + 4.9 years. In 69 p there were 78 thrombembolic complications detected (cumulative incidence: 0.33 + 0.05). There were 164 late deaths due to none cardiac reason (n = 58), myocardial failure (n = 20), sudden death (n = 16), bleedings (n = 11), thrombemboli(n = 9) and infective endocarditis (n = 8), while 14 p died early after one of the reoperations and 28 deaths remained unclassified.
We conclude that closed commissurotomy in these p with predominantly rheumatic mitral stenoses had been done with remarkably good long-term results.

COMPARISON OF OCCURRENCE OF BLEEDING, SYSTEMIC EMBOLISM, ENDOCARDITIS, VALVE THROMBOSIS AND REOPERATION BETWEEN PATIENTS RANDOMIZED BETWEEN A MECHANICAL PROSTHESIS AND A BIOPROSTHESIS. RESULTS FROM THE VA RANDOMIZED TRIAL.

Karl E. Hammermeister, Gulshan K. Sethi, Charles Oprian, William G. Henderson, Participants in the VA Cooperative Study on Valvular Heart Disease.

A randomized trial was initiated in 1977 to compare survival and the freedom from all valve-related complications between adult males receiving a mechanical prosthesis (MP) and a bioprosthesis (BP). Although individual valve-related complications were not primary end-points of the randomized trial, they are of considerable clinical importance and are the subject of this 10 year follow-up report. Five hundred seventy-five patients were randomized between the 2 valve types in the operating room The ten year probability of freedom from bleeding was 0.57 ± 0.04 for patients with a MP and 0.77 ± 0.03 for patients with a BP (p = 0.000). The probability of freedom from embolization was similar between patients receiving the 2 valve types (MP 0.86 ± 0.03; BP 0.85 ± 0.03; p = 0.651). Simuarly, there were no differences in ten year probability of freedom from endocarditis (MP 0.92 ± 0.02; BP 0.89 ± 0.02; p = 0.296), or prosthetic valve thrombosis (MP 0.98 ± 0.01; BP 0.96 ± 0.02; p = 0.247). Replacement of the randomized valve has occurred in 35 patients with the BP, but only 19 patients with the MP. The difference in rate of reoperation was due entirely to primary failure (either central valvular regurgitation or nonthrombotic valve obstruction) of the BP (16 patients with BP; none with the MP). On the other hand, reoperation for perivalvular regurgitation was required in 13 patients with a MP, but only 6 with a BP. In conclusion, similar rates of occurrence of endocarditis, systemic embolization, and thrombotic valve obstruction were seen with patients receiving a mechanical or bioprosthetic valve. However, rates of clinically significant bleeding and reoperation for perivalvular regurgitation were about twice as high in patients receiving the MP, while all reoperations for primary valve failure occurred in patients receiving the BP.

TEN YEAR CLINICAL FOLLOW-UP OF 20 PATIENTS WITH AORTIC VALVE REPLACEMENT AND ANNULAR ENLARGEMENT

Dennis F. Pupello, Matthew U. Glover, Will Mick, Luis N. Bessone, Stephen P. Hiro, Enrique Lopez-Cuenca, M. S. Glatterer, Jr., John C. Brock
St. Joseph's Heart Institute, Tampa, Florida, U.S.A.

Replacement of the aortic valve in patients with a small aortic annulus may present technical problems to the surgeon. Twenty consecutive patients with a small aortic annulus were operated upon between March 1975 and September 1978. A posterior annnular splitting procedure using a dacron graft to enlarge the base of the aorta was utilized. Ages ranged from 55 to 83 years with a mean of 72.1 years. There were 2 males and 18 females. Follow-up periods extend from 10 to 15.4 years with a mean of 11.6 years. All patients were evaluated with two dimensional echocardiogram and color Doppler flow studies. Evaluations included assessment of ascending aortic dimensions at the annulus and 2 cm above the sino-tubular junction, Doppler flow velocities across the aortic prosthesis with pulsed Doppler search for aortic regurgitation and mitral regurgitation. Of the 15 survivors only 3 have flow velocities across the prosthesis of 3 meters per second or greater. The initial implants were all 21 or 23 mm Hancock bioprostheses. In no instance was there evidence of aneurysmal dilatation of the aortic repair or impairment of normal mitral valve function by the annular splitting procedure. In conclusion, annular enlargement is necessary in a significant number of patients, especially females, undergoing aortic valve surgery. It can be achieved with no significant increase in mortality or morbidity, and there is no evidence of graft deterioration or aneurysmal dilatation of the aortic repair.